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ABSTRACT

The results of research on the amount of information retained by television viewers from weather broadcasts suggest that audiences retain little information on weather conditions even though they are interested in it, and that more information is retained when the report is presented via the spoken word than with extensive use of visuals. An analysis of the content, format, and speech rates of weather bulletins in Europe (including Great Britain) and the United States showed that, in general, weather reports typical of the areas investigated were ineffective. Further investigation of the effect of delivery rates of weather bulletins from which excessively detailed information had been removed found that, although the percentage level of performance in answering questions about these bulletins improved, the increase was not significant. A slow, carefully segmented delivery of a pre-prepared text with less information than television weather bulletins usually convey was found to be a more effective format than the others examined, and it is suggested that a sequence of simply-labelled maps would produce the most appropriate visuals to accompany this message. It is concluded that fact-filled, rapidly delivered, slick presentations of the weather are minimally successful in conveying their message, and that broadcasters should be more concerned with the effective communication of information than with elaborate special effects. Analyses of the data are presented in four appended tables. (CGD)

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What can we do about the weather?

Paper presented to the 1986
International Television Studies Conference

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What can we do about the weather?

Why should we want to do anything about weather programmes? Surely, weather programmes are like mashed potatoes - acceptable to everyone and difficult to mess up?

Not very long ago, the BBC introduced some expensive new technology and changed the format of its TV weather programmes. Some time later, they asked their Research Department to carry out a study on how acceptable the changes were to the audience.

This says a great deal about the views broadcasters have had of the weather and of the role of research. These views are perfectly reasonable if we suppose that people who are interested in something, especially if it is brief, will register it as well with one form of presentation as with another. Since there is no doubt that people want the weather and like it (audience research has made this clear), success in communication is more or less guaranteed. The sole remaining function of research is to assure those deciding on alterations that the audience is still happy.

The gist of my paper today is that this supposition that the weather is grasped just because it interests people is wrong. Interest and relevance may be worthy

sins, but their achievement does not guarantee learning. We now know this from several sources, from laboratory studies and from field studies of live audiences; from TV and from radio. I shall describe some of the TV evidence briefly.

In a famous study in America in 1976, Neuman phoned TV viewers within 1/2 hr or so of the main evening news and asked people what they remembered. When asked what had been said about the weather, 70 per cent could not give a single item of information. Even compared with poor performance on news stories, this was disastrous.

One can discuss this dispiriting result in various ways. America is a much bigger country than ours, so it has more weather to remember; Americans speak so fast, we've always wondered how people could understand; and anyway, we know we do things much better.

Well, let's see what happens for a start when people are given their local weather, on local TV news, in the cool, unexcitable Mid-West. David Hyatt and his colleagues in a 1978 study in Minnesota found a better picture - but only slightly so: they found that within an hour or so of viewing the early-evening report, about 50% of the audience remembered little or none of the local weather; only 20% had good recall. On national news, they agreed with Neuman - 75% of viewers could recall nothing.

How much better do we fare in Britain? The BBC has not, to my knowledge, done any research on this. The IBA has. In 1981, Barrie Gunter and Mallory Wober of the IBA showed tele-recordings of ITV weather reports to representative panels of viewers and asked them about what they had grasped immediately afterwards. Whilst the results don't necessarily show exactly how well viewers perform every day in their own homes, they do reflect what can be achieved under near optimal conditions. Clearly, Gunter and Wober didn't expect too much, because they made life easier for their subjects by not requiring them to recall the information, but merely to recognise the correct option from four general weather forecast descriptions for their own region of the country. The correct options were recognised by only between a quarter and half the subjects. In addition, only 5 per cent correctly remembered the forecast temperature.

But TV has a whole box of visual tricks available to it. So isn't the answer to make the reports more alluring by employing the new technical tricks like satellite photos and predictive sequences in which heavy investment has been made?

The answer seems to be, no! One might as well try to teach differential calculus in a 3-ring circus. Willen Wagenaar in Holland has found that just about anything you do by way of television presentation of the weather results in less being retained than if the same spoken information

is just heard. This goes for a news presenter reading direct onto camera and for a meteorologist pointing to maps and charts. Only with a map presented with carefully synchronised supers matching the spoken text exactly was TV presentation as good as, but no better than, sound alone. That is to say, it was very poor.

It means that before we rush to 'brighten up' the weather yet again, we would do better to stop and consider more carefully what we are doing. I think we then need to ask whether it is actually what we want to do. And finally, when we know what that is, we need to ask whether research, having been so smart as to discover something we hadn't realised (ie that we were practically wasting our time), is smart enough to help us do something about it!

My first question is about what we are doing at the moment - what we are doing, and how we are trying to do it.

[slide 1 here]

Slide 1 shows the content of evening weather reports put out by a large sample of European networks and some US ones. You will see there is little agreement over what to give the troops. (Endearing national differences emerge: the British often spend half the programme reminiscing nostalgically what the weather was like today; the Swiss give predicted temperatures to the nearest tenth of a degree.) The only point of agreement is that something

should be said about tomorrow's weather.

One wonders how much effort has been put into finding out what people want. The British have quite a good record on this, though they seem slow to arrive at practical conclusions from their research. I have attempted to summarize the evidence on audience wishes in an article in the July issue of the EBU Review. It suggests at least that wind, barometric and perhaps specific temperature information might be considered as candidates for omission. I suspect in any case that one reason weather reports are ineffective is that they contain too much information that most people don't particularly want.

[slide 2 here]

Slide 2 shows that there is as much variation of view on how to present the information. You will see that the format, personnel and duration employed in evening reports vary hugely. (I know Norway is long and thin, but that doesn't account for everything.)

Do these differences have any practical consequences? And are there other differences?

One other huge disagreement seems to be about how fast to present the information. To the amazement of many British broadcasters, I was able to show that their presentation rates are far above Continental ones, and

almost as fast as American ones. Some consequences of format and speech rates are apparent in slide 3.

[slide 3 here]

Here are the very uniform low Continental delivery rates for TV evening weather reports. Only all the English-language programmes are consistently out of line, and much faster. This is associated with technical faults in delivery (tongue-tying, loss of synchronisation, etc), especially where the visual format is complex. Rates associated with such faults are shown in parentheses. You'll see that the errors occur where the rate is well above the average for the format type.

Whilst speaking slowly makes a fault-free round more likely, does it guarantee that the viewer will grasp more? And are there other factors in play?

In view of Wagenaar's demonstration of the apparent inability of TV presentation to assist grasping the weather, I thought the best strategy could be to concentrate research initially on factors to do with the ordering and delivery of the spoken information. So for a start, Andreas Scheffler and I looked at whether we could improve learning by modifying original weather texts. This meant taking radio weather transcripts, kindly provided by the BBC, and comparing how well they fared compared with forms from which the clutter of excessively detailed

information, met. men's asides, and precise temperatures had been removed. The modified forms were strictly systematized as to time and region, and both original and modified versions were recorded at 150 wpm, ie around the average slower Continental rate. In addition, in the modified version, we imposed brief but marked pauses, of around half a second, between the regional and time segments.

[slide 4 here]

The percentage levels of performance in answering information probed by specific questions are shown on slide 4. You will see that we were able to double the retention of information for some parts of the bulletin. Nevertheless, the level of performance remained pretty miserable.

More recently, my students and I have been able to get performance up much higher, to around 60 per cent, by introducing inter-segment pauses of at least one second at a rate of 140 wpm. This sounds a short pause, but to us making the test material it seemed a very long time indeed. I suspect it seems even longer, and quite unnatural, to those who currently present the weather.

To be clear, we have achieved these still-modest levels of registration of weather information by a very slow, carefully segmented delivery of a pre-prepared text which contains much less information than TV weather

bulletins usually try to convey. We have still to add TV pictures to this. On Wagenaar's evidence, we should accompany these simple texts with a simple sequence of simply-labelled maps, and avoid too much information and too slick a presentation.

This all sounds rather puritanical, and not much fun. The weather, after all, is entertaining; why shouldn't we enjoy it? Like the great British public, I enjoy satellite pictures, I enjoy the predictive sequences, and I enjoy the jolly, friendly chaps who chat their way through them with their music hall patter. However, though it's fun, we now know its success in conveying a message is minimal. Neither broadcasters nor their audiences have been aware of this, and one wonders what shocks still await those other purveyors of brief 'fun' messages, the advertisers.

Perhaps the same is true of conference speakers? I hope not, and that my simple message registers even among those who are not particularly interested or those to whom it may be unwelcome.

Meteorologist		Set text, complex presn		Set text, simple presn		Other Forms	
KCST, San Diego	281 (S)						
JTV, Ljubljana	193						
YLE, Helsinki	173						
SVT-1, Stockholm	166						
CNN, USA	164 (S)						
SVT-2, Stockholm	155						
WABC, USA	155 (S)						
RTE, Dublin	154 (S)						
		NRK, Oslo	133				
		ORF, Vienna	106				
		NOS, Hilversum	102				
ZDF, Wiesbaden	94 (S)						
CBS, USA	83 (S)						
BBC 1, London	77 (S)	TVP, Warsaw	77				
		DR, Copenhagen	72				
WNBC, USA	64 (S)						
A2, Paris	64						
WCBS, USA	58 (S)	SRG, Zurich, etc.	55-60				
		MTV, Budapest	53				
		YLE, Helsinki	51				
		ORF, Vienna	50				
		ARD, Hamburg	50(S)				
		Channel 4, UK	49				
		CR, Bratislava	38				
		ORF, Vienna	35				
				RAI, Bozen	27		
				JTV, Ljubljana	27		
				NOS, Hilversum	26		
				RAI, Trento	21		
				TF, Paris	21		
				RTE, Dublin	15		
				FR3, Paris	13		
				DF, Pankow	8		
						RTE, Dublin (Labelled map, no sound)	5
						ITN, London (Labelled map, no sound)	2

Table 2 The duration (in seconds) of TV weather broadcasts as a function of format. (S) indicates use of satellite photo.

	Slow Group								Fast Group			
	Finnish	German	Dutch	Nordic	Italian	Slav	Hungarian	Average	French	British English	American English	Average
Meteorologist, simple	127	140	-	122	-	-	-	131	-	208	208 (233)	211
Meteorologist, complex	-	-	-	-	-	-	-	-	- (225)	-	219 (238)	219
Reader, simple	-	137	138	152	154	162	-	145	195	-	-	195
Reader, complex	-	107	- (169)	133	128	125	134	119	166	- (191)	-	166
Average WPM	127	137	138	136	141	138	134	136	181	208	217	200

Table 3 Television Weather Reports - Average Delivery Rates (words/min)

Simple forms involve reading of set text without elaborate visual synchronisation not under direct control of reader. They include 'talking head', voice over 'chocolate box' photo, single map, etc.

Complex forms embrace map sequences, series of supered captions and symbols, animated film whose presentation is not under speaker's direct control.

Rates in parentheses refer to failures in presentation (Tongue-tying, loss of synchronisation, etc).

Weather period	Broadcast text	Modified text
This afternoon	20.7	22.7
Tonight	9.1	17.5
Further forecast	13.0	29.9

Table 4 Percentage performance in remembering weather information from two versions of a BBC Radio lunch-time forecast (150 wpm)